APPELLANTS' BRIEF UNDER 37 CFR 1.192(a)

Director of the United States Patent & Trademark Office Washington, DC 20231

Sir:

This is an appeal from the Final Rejection dated July 16, 2002, in which Claims 7-12 were finally rejected. Appellants' claims have been twice rejected, and so the appeal is proper under 35 USC 134.

### **REAL PARTY IN INTEREST**

The real party in interest in this application is the assignee of record of the entire interest.

The assignee of record of the entire interest is Dow Corning Corporation, Midland, Michigan.

The assignment was recorded on December 19, 2001 Reel 012405 Frame 0902.



### RELATED APPEALS AND INTERFERENCES

ΓΕΟ APPEALS AND INTERFERENCES

Appellants, appellants' legal representative, or the assignee of record, do not know of any affect or be directled. related appeal or interference in any other application, which would directly affect, or be direct affected by, or have any bearing on, the Board's decision in the pending appeal.

### STATUS OF CLAIMS

Claims 1-6 were originally filed in the application. In an amendment filed April 10, 2002, Claims 1-6 were canceled in favor of Claims 7-12, which are the claims pending in the application. These claims were finally rejected and are the subject matter of this appeal.

### STATUS OF AMENDMENTS

No amendments have been filed subsequent to the final rejection under 37 CFR 1.116.

### SUMMARY OF THE INVENTION

This is a simple invention and it is directed to a water-in-oil (W/O) emulsion, the components of which are (i) a linear silicone polyether, (ii) a non-emulsifying α,ω-diene crosslinked silicone elastomer having no oxyalkylene units in its structure, and (iii) a nonionic organic emulsifier. The W/O emulsion is free of silicone elastomers prepared using unsaturated compounds containing silicon atoms.

Some examples of component (ii) are carboxylated alcohol ethoxylates, carboxylated alkylphenol ethoxylates, ethoxylated alcohols, ethoxylated fatty acids, ethoxylated fatty esters, ethoxylated fatty oils, glycerol esters, polyglycerol fatty esters, ethoxylated glycerol esters, sorbitan derivatives, and sucrose esters and their derivatives.

The practical utility of these W/O emulsions is for delivery of vitamins to products in the personal marketing arena, wherein vitamins have benefit in applications to the hair, skin, and underarm areas of the human body.

For example, Vitamin A and Vitamin C, when incorporated into water-in-silicone oil (W/O) compositions for skin care applications, have met with some degree of success in the market place. However, the active form of Vitamin E, i.e., tocopherol, typically exhibits signs of degradation and instability in W/O systems. There is, therefore, a need in the personal care arena, for stabilized vitamin, especially stabilized Vitamin E containing water-in-silicone oil emulsions (W/O), which the instant invention provides.

### **ISSUES**

There are two issues for consideration by The Board of Patent Appeals and Interferences. The first issue is whether Claims 7-12 are indefinite under 35 USC 112. The second issue is whether Claims 7-12 are unpatentable over Schilling US 4150048 in view of Schulz US 5654362, further in view of Remington (a Pharmaceutical Sciences Publication), still further in view of Zhang US 5889108, and yet further in view of Lin US 6207717, under 35 USC 103(a).



### COPY OF PAPERS ORIGINALLY FILED

### **GROUPING OF CLAIMS**

The pending claims stand or fall together as a group.

# RECENTER TOOLSOO

### **ARGUMENT**

As regards the rejection of the claims under 35 USC 112, the terms "sorbitan derivatives", "sucrose esters and their derivatives", and "glucose esters and derivatives", noted by the Examiner, do not render the claims indefinite as to what derivative compounds are encompassed by the claims. This is for the reason that these terms have attained a very well defined meaning in the art.

As evidence, Appellants have enclosed some pertinent pages of McCutcheon's 2001 Volume 1, "Emulsifiers & Detergents", North American Edition, which at Page 320 show the emulsifiers characterized as being Sorbitan Derivatives. At Page 321, emulsifiers characterized as being Sucrose and Glucose Esters and Derivatives are described. In view of this evidence, the rejection under 35 USC 112 should be reversed and not affirmed.

Claims 7-12 were also rejected as being unpatentable over Schilling US 4150048 in view of Schulz US 5654362, further in view of Remington (a Pharmaceutical Sciences Publication), still further in view of Zhang US 5889108, and yet further in view of Lin US 6207717, under Section 103(a).

Schilling apparently is the primary reference relied upon by the Examiner in the rejection, for its teaching of a system containing a linear silicone polyether. Schilling, however, is directed to the preparation of foam products rather than water-in-oil (W/O) emulsions as defined in the claims. In particular, the linear silicone polyether in Schilling is described as being primarily useful for preparing polyurethane foams rather that W/O emulsions.

More particularly, the description in Schilling indicates that the silicone-polyether copolymers described as being linear in structure, find use, for example, as wetting agents, thickeners, emulsifiers, antifoaming agents, urethane foam stabilizers for foams of various types (rigid, polyester, flexible, polyether, frothed, high resiliency, semiflexible, microcellular, etc.), lubricants, and aqueous aerosol shave cream stabilizers. Schilling indicates that reactants can be chosen to obtain a novel product which finds use as an aqueous wetting agent. Another novel product Schilling states is that it can be useful as a surfactant for rigid polyurethane foam. Still another novel product is as a surfactant for flexible polyether foam.

Certain other of Schilling's high molecular weight, linear, nonhydrolyzable, siloxane-polyether (AB)<sub>n</sub> block copolymers are said to be useful as surfactants for making frothed urethane foam and for making open-celled rigid urethane foam. Because of their hydrostable nature, Schilling states that they are useful in a variety of applications in which they come into contact with water or other protic solvents wherein hydrolyzable linear silicone polyether copolymers would be unstable and, thus, not suitable. As examples, Schilling notes aqueous foaming and thickening agents, water soluble lubricants, aqueous premixes for various types of urethane foams, and aqueous emulsions. No mention is made however of W/O emulsion compositions of the type defined in Appellants' Claims 7-12.

The Examiner apparently relies upon Schulz for its teaching of the " $\alpha$ , $\omega$ -diene crosslinked silicone elastomer having no oxyalkylene units in its structure" component of Appellants' W/O emulsion, and apparently considers that it would be obvious to one skilled in the art to incorporate such an  $\alpha$ , $\omega$ -diene crosslinked silicone elastomer having no oxyalkylene units in its structure, in Schilling.

In reality, Schilling and Schulz have nothing in common, nor is there any need in Schilling for an  $\alpha,\omega$ -diene crosslinked silicone elastomer having no oxyalkylene units in its structure. Furthermore, neither Schilling nor Schulz mention preparing emulsions, let alone a W/O emulsion.

Remington is apparently relied upon by the Examiner as showing the "nonionic organic emulsifier" component of Appellants' W/O emulsion. However, Remington points out that the nonionic surfactants which are described are useful as emulsifying agents for forming O/W emulsions, rather than W/O emulsions as claimed. Not only is this inconsistent with the composition claimed, but there is no need in Schilling of any such nonionic organic emulsifier.

Zhang is next applied by the Examiner as showing the solvent component of the W/O composition in Appellants' Claims 10-12, and apparently considers that it would also be obvious for one skilled in the art to add such a solvent in Schilling. However, as noted above, there is no apparent need in Schilling of such a solvent, and therefore no reason for one skilled in the art to add such a solvent to the primary reference.

1

Lastly, Lin is applied by the Examiner for its showing of a W/O emulsion in which Vitamin E (Claims 8 and 9) and an elastomeric silicone polyether are described. This again seems inconsistent with what is being claimed, as Appellants claims specifically exclude elastomeric silicones containing oxyalkylene units. In any event, Schilling fails to indicate that some benefit would or could be derived by adding a Vitamin to a polyurethane foam composition, let alone Vitamin E. It is not seen and neither Schilling or Lin indicate that a vitamin would or could perform a function in polyurethane foam compositions.

Other than an apparent reliance upon Appellants' own disclosure, Appellants fail to see any cogent reason for combining the five cited references in the manner suggested by the Examiner.

Thus, there is no suggestion to combine the references. It appears that if an invention is different from what is disclosed in one reference, but the difference is such that combination with another reference would lead to what is claimed, the obviousness question then should require an inquiry into whether there is a reason, suggestion, or motivation, to make that combination. So that before a conclusion of obviousness may be made based on a combination of references, there should be a reason, suggestion, or motivation, to lead an inventor to combine references. Such a suggestion may come expressly from the references themselves. In this case, it does not.

It may come from knowledge of those skilled in the art, that the references or disclosures in the references, are known to be of special interest or importance in the particular field. In this case, they are not.

It may also come from the nature of the problem to be solved, leading inventors to look to the references relating to possible solutions to the problem. In this case, it does not.



### **COPY OF PAPERS ORIGINALLY FILED**

### CONCLUSION

For the foregoing reasons, the Honorable Board of Appeals is requested to reverse the ner's rejection of Claims 7-12.

ahlum

Examiner's rejection of Claims 7-12.

### **HEARING**

An oral hearing is not requested.

Respectfully submitted,

DOW CORNING CORPORATION

Jim L. De Cesare, Reg. No. 27,979 (989) 496-4235



**APPENDIX** 

RECENTER 1800/2 7. A composition comprising a water-in-oil (W/O) emulsion having a discontinuous aqueous phase dispersed in a continuous oil phase, the continuous oil phase of the W/O emulsion comprising a linear silicone polyether, the linear silicone polyether having a rake type structure wherein the polyoxyethylene or polyoxyethylene-polyoxypropylene copolymeric units are grafted onto a siloxane backbone, or the linear silicone polyether having an ABA block copolymeric structure wherein A represents the polyether portion and B represents the siloxane portion of an ABA structure; a non-emulsifying  $\alpha, \omega$ -diene crosslinked silicone elastomer having no oxyalkylene units in its structure; and a nonionic organic emulsifier selected from the group consisting of carboxylated alcohol ethoxylates, carboxylated alkylphenol ethoxylates, ethoxylated alcohols, ethoxylated fatty acids, ethoxylated fatty esters, ethoxylated fatty oils, glycerol esters, polyglycerol fatty esters, ethoxylated glycerol esters, sorbitan derivatives, sucrose esters and their derivatives, and glucose esters and their derivatives; the W/O emulsion being free of silicone elastomers prepared using unsaturated compounds containing silicon atoms.

8. A composition according to Claim 7 in which one of the discontinuous aqueous phase of the W/O emulsion or the continuous oil phase of the W/O emulsion contains a water soluble active ingredient or an oil soluble active ingredient, respectively.

- 9. A composition according to Claim 8 in which the active ingredient is selected form the group consisting of Vitamin B<sub>1</sub>, Vitamin B<sub>2</sub>, Vitamin B<sub>6</sub>, Vitamin B<sub>12</sub>, niacin, folic acid, biotin, pantothenic acid, Vitamin E, Tocopherol, α-Tocopherol, β-Tocopherol, γ-Tocopherol, Δ-Tocopherol, Tocopherolan, Tocopheryl Acetate, Tocopheryl Palmitate, Tocopheryl Linoleate, Tocopheryl Nicotinate, Tocopheryl Succinate, and mixtures thereof.
- 10. A composition according to Claim 7 in which the continuous oil phase of the W/O emulsion contains 0.2-3.0 percent by weight of the linear silicone polyether, 0.2-10 percent by weight of the  $\alpha$ , $\omega$ -diene crosslinked silicone elastomer, and 0.1-4.0 percent by weight of the nonionic organic emulsifier, the balance of the W/O emulsion containing a solvent and water.
- 11. A composition according to Claim 10 in which the solvent is a volatile cyclic alkyl siloxane with the formula (R"2SiO)<sub>d</sub> or a volatile linear alkyl siloxane with the formula R"3SiO(R"2SiO)<sub>e</sub>SiR"3 in which R" is an alkyl group containing 1-6 carbon atoms, d is 3-6 and e is 0-5.
- 12. A composition according to Claim 11 in which the solvent is selected from the group consisting of hexamethylcyclotrisiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, hexamethyldisiloxane, octamethyltrisiloxane, decamethyltetrasiloxane, dodecamethylpentasiloxane, tetradecamethylhexasiloxane, and hexadecamethylheptasiloxane.

### MCCUTCHEONS

Dow Corning Corporation

Midland, Michigan 48686-0994 (517) 496-4235

Jim L. DeCesare

Senior Patent Attorney

พื้อเป็นเริงใจ

THURSTELL STORY

MORTHAMERICAN EDITION

BEST AVAILABLE COPY

## 2001 McCutcheon's VOLUME 1: Emulsifiers & Detergents North American Edition

Printed in U.S.A.
C pyrighted 2001. McCutcheon's Division
The Manufacturing Confecti ner Publishing Co.
175 Rock R ad, Glen R ck, NJ 07452-1700 USA
Ph ne: +1 (201) 652 2655 • Fax: +1 (201) 652 3419
E-mail: TheMC@g mc.com
All rights reserved
ISBN 944254-76-4 LC # 82-644577

### **CONTENTS**

Company Indexiv
Food Emulsifier Indexxi
Textile Surfactant Indexxv
Surfactants1
Formulated Detergent/Shampoo Concentrated Bases228
Intermediates234
HLB Index of Materials251
CAS Number Index268
I nic Type Classification291
Chemical Classification302

Trade Name - Company Pag	e   Trade Name - Company Page
Quaternary Surfactants (cont'd)	Soaps
Monaquat SL-5 - Uniqema (ICI Surfactants)  Monaquat 801 - Uniqema (ICI Surfactants)  Redicote E Series - Akzo Nobel Chemicals Inc.  Redicote I Series - Akzo Nobel Chemicals Inc.  Retarder N - Hart Products Corp.  Retarder N-85 - Hart Products Corp.  Rewoquat CPEM - Goldschmidt AG  Schercoquat IAS - Scher Chemicals, Inc.  Schercoquat IS - Scher Chemicals, Inc.  Schercoquat IS - Scher Chemicals, Inc.  Schercoquat SAS - Scher Chemical Company  Servamine KZB 402 - Condea Vista Company  1 Servamine KZB 402 - Condea Vista Company  Surfio S7655 - Exxon Chemical Company  Surfio S7655 - Exxon Chemical Company  Tomah Q - Tomah Products, Inc.  Vanseal NALS-30 - R. T. Vanderbilt Co. Inc.  Variquat B200 - Goldschmidt AG  Variquat CC-35 - Goldschmidt AG  Variquat CC-57 - Goldschmidt AG  Variquat CC-57 - Goldschmidt AG  Variquat CC-9NS - Goldschmidt AG  Variquat CC-9NS - Goldschmidt AG  Variquat CPEM - Goldschmidt A	Actrabase 31-A - Georgia Pacific
Hamposyl AL-30 - Hampshire Chemical Corp. Hamposyl M - Hampshire Chemical Corp. Hamposyl M-30 - Hampshire Chemical Corp. Hamposyl MS Blend - Hampshire Chemical Corp.	Syncrowax BB-4 - Croud inc.   215   27   27   27   27   27   27   27   2
Hamposyl TL-30 - Hampshire Chemical Corp.  Maprosyl 30 - Stepan Company  Vanseal CS - R. T. Vanderbilt Co. Inc.	Sodium Isethionate
Vanseal LS - R. T. Vanderbilt Co. Inc.  Vanseal MS - R. T. Vanderbilt Co. Inc.  Vanseal NACS-30 - R. T. Vanderbilt Co. Inc.	Hostapon SI - Clariant Corporation  No. 20 Sorbitan Derivatives
Vanseal OS - H. T. Vanderbill Co. Inc.	Alkamuls PS - Rhodia, Inc
Abil-B-8800 - Goldschmidt AG Abil B 9950 - Goldschmidt AG Abil B 98183 - Goldschmidt AG Abil B 88184 - Goldschmidt AG Abil Care 85 - Goldschmidt AG Abil EM 90 - Goldschmidt AG Abil EM 97 - Goldschmidt AG Abil WE-09 - Goldschmidt AG Abil WE-09 - Goldschmidt AG Dow Corning Q4-3667 Fluid - Dow Corning Corp. Dow Corning Surfactant - Dow Corning Corp. Dow Corning 3225C Formulation Aid - Dow Corning Corp. Monasil PCA - Uniqema (ICI Surfactants) Monasil PDM - Uniqema (ICI Surfactants) Monasil PLN - Uniqema (ICI Surfactants) Silwet L - OSI Specialties Troysol S366 - Troy Corporation Troysol 380W - Troy Corporation	Alkamuls SMO - Rhodia, Inc.

Trade Name - Company Page	Trade Name - Company Page
Sorbitan Derivatives (cont'd)	Sorbitan Derivatives (cont'd)
Canarcel 20 - Canamex Especiacidades Quimicas       .33         Canarcel 40 - Canamex Especiacidades Quimicas       .33         Canarcel 60 - Canamex Especiacidades Quimicas       .33         Canarcel 65 - Canamex Especiacidades Quimicas       .33         Canarcel 86 - Canamex Especiacidades Quimicas       .33         Canarcel 80 - Canamex Especiacidades Quimicas       .33         Canarcel 85 - Canamex Especiacidades Quimicas       .33         Cremophor PS - BASF Corporation       .52, 53         Crill - Croda Inc.       .53         Customulse O-20 - Custom Ingredients, Inc.       .55         Dehymuls E - Cognis Corp.       .56         Dehymuls E - Henkel Canada Ltd.       .56	Tego SMO 80 V - Goldschmidt AG       205         Tego SMS - Goldschmidt AG       205         Tego STO - Goldschmidt AG       205         Trylox 6746 - Henkel Corp./Emery Grp.       218         Tween 21 - Uniqema (ICI Surfactants)       218         Tween 40 - Uniqema (ICI Surfactants)       218         Tween 60 - Uniqema (ICI Surfactants)       218         Tween 61 - Uniqema (ICI Surfactants)       218         Tween 65 - Uniqema (ICI Surfactants)       218         Tween 80 - Uniqema (ICI Surfactants)       218         Tween 81 - Uniqema (ICI Surfactants)       218         Tween 85 - Uniqema (ICI Surfactants)       218         Tween 85 - Uniqema (ICI Surfactants)       218
DeMuls PS - DeForest Enterprises, Inc	Sucrose and Glucose Esters and Derivatives
DeSotan SMO-20 - Witco Corp.         .65           DeSotan SMT - Witco Corp.         .65           DeSotan SMT-20 - Witco Corp.         .65           Durfax 60 - Loders Croklaan U.S.A.         .73           Durfax 65 - Loders Croklaan U.S.A.         .73           Durtax 80 - Loders Croklaan U.S.A.         .73           Durtan 60 - Loders Croklaan U.S.A.         .73           Durtan 65 - Loders Croklaan U.S.A.         .73           Emsorb 2500 - Henkel Corp.         .79           Emsorb 6900 - Henkel Corp.         .79           Emsorb 6900 - Henkel Corp./Emery Grp.         .79           Glycomul - Lonza Inc.         .95           Grindsted Sorbitan Esters - Danisco Ingredients         .96           Hetsorb - Heterene Chemical         .101           Liposorb L - Lipo Chemicals, Inc.         .119           Liposorb L-20 - Lipo Chemicals, Inc.         .119           Liposorb O-20 - Lipo Chemicals, Inc.         .119           Liposorb P - Lipo Chemicals, Inc.         .120           Liposorb S - Lipo Chemicals, Inc.         .120	Crodesta - Croda Inc.         .55           DeSulf GOS-P-60WCG - DeForest Enterprises, Inc.         .65           DeSulf GOS-P-70 - DeForest Enterprises, Inc.         .65           Glucam E-20 Distearate - Amerchol Corp.         .94           Glucamate DOE-120 - Amerchol Corp.         .94           Glucamate SSE-20 - Amerchol Corp.         .94           Glucate DO - Amerchol Corp.         .94           Glucate SS - Amerchol Corp.         .94           Glucopon 425UP - Henkel Corp.         .95           Glucopon 600UP - Henkel Corp.         .95           Hostapon CLG - Clariant Corporation         .103           Mazon 40 - BASF Corporation         .134           Rheozan - Rhodia, Inc.         .163           Tego Care CG 90 - Goldschmidt AG         .206           Tego Care 450 - Goldschmidt AG         .206           Tegosoft PSE 141 G - Goldschmidt AG         .207           Tegotens G 826 - Goldschmidt AG         .207           Tegotens G 826 - Goldschmidt AG         .207           Triton BG-10 - Dow Chemical Company         .212           Triton CG-110 - Dow Chemical Company         .213           Wickenol 545 - Alzo International, Inc.         .222
Liposorb S-20 - Lipo Chemicals, Inc	Sulfates and Sulfonates of Oils and Fatty Acids
Liposorb TS - Lipo Chemicals, Inc.       120         Liposorb TS-20 - Lipo Chemicals, Inc.       120         Lumisorb PS - Lambent Technologies Inc.       121, 122         Lumisorb PSML-20 NF - Lambent Technologies Inc.       122         Lumisorb PSMC-80 - Lambent Technologies Inc.       122         Lumisorb PSMO-5 - Lambent Technologies Inc.       122         Lumisorb PSMO-20 NF - Lambent Technologies Inc.       122         Lumisorb PSTO-20 - Lambent Technologies Inc.       122         Lumisorb SMS - Lambent Technologies Inc.       122         Lumisorb SSO - Lambent Technologies Inc.       122         Lumisorb ST - Lambent Technologies Inc.       122         Lumisorb ST - Lambent Technologies Inc.       122         Miracare BC-27 - Rhodia, Inc.       230         Ritabate 20 - R.I.T.A. Corp.       168         Ritabate 40 - R.I.T.A. Corp.       168         Ritabate 80 - R.I.T.A. Corp.       168         Ritabate 80 - R.I.T.A. Corp.       168         S-Maz - BASF Corporation       170         S-Maz 60K - BASF Corporation       170         S-max 60K - Base Corporation       179         Span 60 - Uniqema (ICI Surfactants)       179         Span 60K - Uniqema (ICI Surfactants)       179         Span 60K - BASF Corporation	Actrasol C - Georgia Pacific       .3         Actrasol MY75 - Georgia Pacific       .3         Actrasol PSR - Georgia Pacific       .3         Actrasol SRK-75 - Georgia Pacific       .4         Actrasol TLW - Georgia Pacific       .4         Actrasol NPES - Cytec Industries Inc.       .6         Atlas Sul. L-2 - Atlas Refinery Inc.       .25         Atlasol 160-S - Atlas Refinery Inc.       .25         Base 8000 - Keil Chemical       .27         Bio-Terge PAS-8S - Stepan Company       .28         Dymsol 2031 - Henkel Corp./Functional Prod. Grp.       .73         Erucical S-102 - Lambent Technologies Inc.       .80         Estersulf IHH - Georgia Pacific       .81         Eureka 102 - Atlas Refinery Inc.       .84         Eureka 392 - Atlas Refinery Inc.       .84         Eureka 400-R - Atlas Refinery Inc.       .85         Eureka 800-R - Atlas Refinery Inc.       .85         Nopco 1471 - Henkel Corp./Functional Prod. Grp.       .147         Nopcocastor - Henkel Corp./Functional Prod. Grp.       .147         Nopcocastor - Henkel Corp./Functional Prod. Grp.       .147         Polystep B-1 - Stepan Company       .157         Polystep C-OP3S - Stepan Company       .157         Polystep C-OP3S - Stepan Company       .157<

